C L A I M S

1.   A method for developing process-based applications, in particular workflow-based applications, using a development environment for the process-based applications hosted by a process management system, the process-based applications being based on at least one process model containing at least one procedure hosted by an execution environment and represented by metadata, said method comprising the steps of:

    accessing the metadata for at least one procedure;

    extracting, from the accessed metadata, information needed to run the procedure;

    transforming the extracted information into a format appropriate for the development environment for the process-based applications;

    transferring the transformed information to the development environment; and

    building the application based on the at least one procedure based on the transferred information by moving the stored procedure information to the process management system.

2.   The method according to Claim 1, wherein the accessed metadata include signatures for the at least one stored procedure stored in a database catalog and topology information stored in a database directory.

3.   The method according to Claim 1, wherein said extracting step is accomplished by using at least one Simple Query Language (SQL) statement.

1   4.   The method according to Claims 1, wherein the process management system is a
2   workflow management system and wherein the development environment is part of the
3   workflow management system.

1   5.   The method according to Claim 4, wherein said step of transforming the extracted
2   information is accomplished by reformatting the extracted information into a suitable
3   workflow definition interchange format file, in particular an FDL or WPDL or SLANG format
4   file, and wherein said step of transferring the transformed information is accomplished by
5   transferring the suitable workflow definition interchange format file to the workflow
6   management system.

1   6.   A method for building process-based applications, in particular workflow-based
2   applications, using a development environment for process-based applications, the
3   process-based applications being based on at least one process model containing at least
4   one process step, in particular at least one activity hosted by a process management
5   system, in particular a workflow management system, where at least one of the process
6   steps is to be implemented by at least one stored procedure, said method comprising the
7   steps of:

8   accessing metadata for the at least one process step in the development
9   environment;

10   extracting, from the accessed metadata, information needed to derive required
11   definitional data for at least one procedure to be stored;

12   transforming the extracted information into definitional data for the at least one
13   procedure to be stored; and

14   creating stored procedure definitions based on the definitional data.

1   7.   The method according to Claim 6, further comprising the step of generating at least
2   skeleton information for the at least one stored procedure in a database hosted by a
3   database management system by using the stored procedure definitions.

1   8.   The method according to Claim 7, further comprising the step of generating a frame
2   of code for the at least one stored procedure.

1   9.   The method according to Claim 6, further comprising the step of inserting the stored
2   procedure definitions into a metadata store hosted by a database management system.

1   10.   The method according to Claim 9, wherein the information needed to derive the
2   required definitional data is at least signature information for each stored procedure
3   contained in the metadata store, or at least topology information required to locate stored
4   procedures contained in the metadata store hosted by the database management system.

1   11.   A method for automatically retrieving information about stored procedures contained
2   in a network environment and to be used in a development environment for use in a
3   process management system wherein the procedures are hosted by at least one database
4   management system, said method comprising the steps of:

5   accessing metadata for at least one of the stored procedures;

6   extracting, from the accessed metadata, information needed to run the procedure;

7   transforming the extracted information into a format appropriate for the development
8   environment for process-based applications;

9   transferring the transformed information to the development environment;

10   building an application based on the at least one procedure based on the
11   transferred information; and

12   moving the stored procedure information to the process management system.

1   12.   A method according to Claim 11, further comprising the step of, whenever a

2   change in the metadata describing the stored procedures occurs, synchronizing the

3   metadata describing the stored procedures in the DBMS with the information in the

4   development environment.

1   13.   A method according to Claim 12, wherein said synchronizing step uses replication

2   features of the database management system to provide information about changes in

3   the stored procedures to the develoment environment for process-based applications.

1   14.   A method according to Claim 11, further comprising the steps of:

2   determining whether a stored procedure has been added, modified or discarded;

3   if it is determined in said determining step that a stored procedure has been

4   added, modified or discarded, retrieving information about the stored procedures within

5   the environment;

6   reformatting the retrieved information into a format read appropriate for the

7   development environment for process-based applications;

8   transferring the reformatted information to the development environment; and

9   updating the development environment with the reformatted information.

1   15.   An application development system for developing process- based applications,

2   using a development environment for process-based applications, the process-based

3   applications being based on at least one process model containing at least one stored

4   component hosted by a database management system and represented by metadata

5   stored by the database management system, comprising:

6   means for accessing the metadata for at least one stored procedure;

7   means for extracting, from the accessed metadata, information needed to run the

8   stored procedure;

9   means for transforming the extracted information into a format appropriate for the

10   development environment for process-based applications;

11   means for transferring the transformed information to the development

12   environment; and

13   means for building the application based on the at least one procedure based on

14   the transferred information.

16.   The system according to Claim 15, further comprising means for reformatting the

extracted information into a suitable workflow definition interchange format file.

17.   An application development system for building process-based applications,

using a development environment for process-based applications, the process-based

applications being based on at least one process model containing at least one process

4   step, comprising:

5   means for accessing metadata for the at least one process step in the

6   development environment;

7   means for extracting, from the accessed metadata, information needed to derive

8   required definitional data for at least one procedure to be stored;

9   means for transforming the extracted information into definitional data for the at

10   least one procedure to be stored; and

11   means for creating stored procedure definitions based on the definitional data.

1   18.   An information retrieving system for retrieving information about stored

2   procedures contained in a network environment and to be used by a process

3   management system, wherein the procedures are hosted by at least one database

4   management system, comprising:

5   means for determining whether a stored procedure has been added, modified or

6   discarded;

7   means for retrieving information about the stored procedures within the network

8   environment if said determining means has determined that the stored procedure has

9   been added, modified or discarded;

10   means for reformatting the retrieved information into format read appropriate for

11   the process management system;

12   means for transferring the reformatted information to the process management

13   system; and

14   means for updating the process management system with the reformatted

15   information.

1   19.   The system according to Claim 18, further comprising:

2

3   means for   accessing metadata for an added or modified procedure; and

4   means for extracting, from the accessed metadata, information required by the

5   process management system to run the stored procedure.

1   20.   The system according to Claim 18 further comprising means for triggering said

2   determining means to determine whether a stored procedure has been added, modified

3   or discarded.

1   21.   The system according to Claim 18, further comprising means for repeatedly

2   executing said determining means after a predetermined time delay.